

The Skeletomuscular System of the Feeding Apparatus of the Noisy Scrub-bird, *Atrichornis clamosus* (Passeriformes: Atrichornithidae)

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ABSTRACT. The cranial osteology and the jaw and tongue musculature of *Atrichornis clamosus* are described. Noteworthy are the large, free lacrymal and the distinct dorsal hump or ridge on the basal portion of the maxillary culmen. Aside from the lacrymal, little strong support exists in the cranial osteology for the generally accepted relationship between *Atrichornis* and *Menura*. The considerable differences in skull morphology between these genera are not surprising because of the much larger skull of *Menura*, about three times that of *Atrichornis* in linear measurements. Other than the large, free lacrymal, the skulls of the *Menurae* differ markedly from those of the bowerbirds, arguing against a close affinity between these two groups. The jaw muscles provide no useful information, at this time, on the possible evolutionary history and the affinities of *Atrichornis*, but the tongue musculature does yield some interesting clues. One feature, partial insertion of the *M. trachohyoideus* on the *ceratobranchiale*, is relatively primitive, but one aspect of the hyoid skeleton, lateral flattening of the *basihyale*, and five features of the tongue musculature are advanced. Most interesting are the vestigial nature of the *M. stylohyoideus*, a condition otherwise known only in woodpeckers and some meliphagids, and the complete insertion of the *M. hypoglossus* anterior on the anterior tip of the *basihyale*, seen also in *Dicaeum*, *Oedistoma*, *Promerops* and a few other passerine birds. These features of the tongue musculature suggest strongly that *Atrichornis* is not primitive among the oscines, but do not, as yet, provide a clear idea of its relationships.

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KEYWORDS: *Menurae*, Atrichornithidae, *Atrichornis clamosus*, relationships, skeletomuscular system, feeding apparatus.

The purpose of this paper is to provide a description of the skeletomuscular system of the jaw and tongue apparatus of *Atrichornis clamosus*. Some comparisons will be made with the skull of *Menura novaehollandiae*; however, full comparison of the cranial morphology of *Atrichornis* and *Menura* must wait until completion of an ongoing study of the latter genus. The available comparisons will permit a few tentative taxonomic conclusions, but more definite ideas on the evolution and relationships of *Atrichornis* to *Menura* and to other passerine birds based on the anatomy of the feeding apparatus must be deferred until detailed analyses are available.

METHODS

Dissections were made with the aid of iodine staining

of the musculature, and using a stereoscopic dissecting microscope. All illustrations were drawn directly from the dissections with the aid of a drawing tube attached to the microscope, or traced from projected transparencies of the skull. The skull was cleaned by hand after completion of the dissection of the jaw and tongue muscles.

Identification and nomenclature of the jaw and tongue musculature are based on Bock (ms.). The following abbreviations are used in the figures of the musculature.

Glands	
G a o	Glandula angularis oris
G mand	Glandula mandibularis
G max	Glandula maxillaris
Ligaments	
L j m e	L. jugomandibularis externus